

### **REMARKS**

The following responds to the Office Action dated August 31, 2005. Claims 11, 14, 15, 27 and 47 are amended, claims 16-21 and 30-36, are canceled, and no claims are added; as a result, claims 1-15, 22-29, and 37-59 remain pending in this application.

#### **§112 Rejection of the Claims**

Claim 56 was rejected under 35 U.S.C. § 112, first paragraph, for “failing to comply with the enablement requirement” with regard to the portion of claim 56 which recites, “to indicate the existence of a capability.” Applicant respectfully traverses this rejection.

Applicant respectfully submits that to indicate the existence of a capability is provided by the specification. For example, peripheral devices compliant with revision 2.2 of the peripheral component interconnect (PCI) local bus specification (published December 18, 1998 by PCI Special Interest Group, Portland, OR) can indicate one or more capabilities using a list of capabilities implemented in hardware and accessible by certain types of software. Applicant respectfully submits that one of skill in the art, upon reading and understanding the present subject matter and who is familiar with the PCI specification would understand the significance of the portion of claim 56 which recites, “to indicate the existence of a capability.”

Thus, Applicant respectfully requests withdrawal of the 35 U.S.C. § 112, first paragraph rejection.

#### **§103 Rejection of the Claims**

Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen et al. (U.S. 6,317,803, hereinafter “Rasmussen”) in view of Armstrong, II et al. (U.S. Publication 2002/0089318, hereinafter “Armstrong”). Applicant respectfully traverses this rejection.

Applicant elects to traverse this, and the other rejections, based in part on Armstrong. In doing so, Applicant reserves the right to swear behind Armstrong at a future date. Accordingly, Applicant respectfully submits that claim 1 is patentable over Rasmussen in view of Armstrong for at least the reasons argued below.

The Office Action rejected claim 1 under 35 U.S.C. § 103(a) based on the combination of Rasmussen and Armstrong. In combining the references, the Office Action on page 3 asserts:

“At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have provided the system of Rasmussen et al with the locking mechanism of Armstrong, II et al to conditionally make the register read-only.

The motivation for doing so would have been to prevent unintentional or unauthorized write to the any register that hold important information, which could compromise the integrity of the system or device.”

Applicant respectfully submits that Rasmussen relates to a read only schema which which teaches away from Armstrong, thus the combination of references is improper. For example, the rejection states “Rasmussen et al further teach the capabilities of pointer registers are set as read only.” Thus, Applicant respectfully submits that there would not be motivation to make Rasmussen conditionally read-only and there would also lack the requisite intent to consult Armstrong by one of skill in the art, since Armstrong is inconsistent with the teachings in Rasmussen.

In the event that the combination was made based on the Examiner’s personal knowledge, Applicant assumes the Examiner is taking Official Notice to provide the motivation to combine the references. Applicant respectfully traverses this taking of Official Notice and, pursuant to MPEP § 2144.03, Applicant respectfully requests that the Examiner cite references in support of this position.

Applicant further respectfully submits that Rasmussen is inconsistent with the language of claim 1 and teaches away from the recited subject matter.

Thus, Applicant respectfully requests reconsideration and withdrawal of this 35 U.S.C. § 103(a) rejection of claim 1.

Claims 1-7 and 9-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen et al. in view of Hall et al. (U.S. 6,128,757, hereinafter “Hall”). In combining these references the Office Action at page 4 asserts:

“At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modify the system of Rasmussen et al with the locking mechanism of Hall et al to conditionally make the register read-only.

The motivation for doing so would have been to ensure the integrity of the data containing the registers are protected against unintended writes when data is written to the device or when a new code segment is updated [col. 8 lines 42-53].”

Rasmussen provides that “[t]he capabilities pointer register and the capability identifier register are read-only. . . .” Rasmussen col. 41, lines 24-26. Thus, the pointer register in Rasmussen is already “protected against unintended writes when data is written to the device or when a new code segment is update.” Therefore, there is no motivation to combine the references as asserted. Additionally, Applicant respectfully traverses this rejection, since as stated above, the rejection has admitted that Rasmussen teaches away from a conditional read only embodiment.

Thus, Applicant respectfully submits that Rasmussen teaches away from the proposed combination of references.

Additionally, Rasmussen and Hall, if combined, fail to teach the entirety of independent claim 6. For example, claim 6 provides, “a hardware implemented capabilities list capable of being modified by low-level software, and read-only to higher level software.” Hall is provided to “teach a locking mechanism to conditionally made the register read-only [col. 8 lines 45-63].” However, per the Office Action, Hall does not distinguish between higher level and low-level software. The Office Action acknowledges this deficiency on page 5 of the Office Action, but further asserts, “It would have been obvious . . . reading the method of Hall et al including the claim higher level software since the specific level of software does not effect the operation of Hall method.” However, this assertion is unsupported. In contrast, it is believed that this position supports that patentability of claim 6 because failing to take account of the level of software does affect the operation of claim 6.

Thus, the combination fails to teach or suggest all of claim elements.

Claims 2-5, 7, and 9-10 depend directly from patentable independent claims 1 and 6 and are patentable for at least the same reasons. Thus, Applicant respectfully requests withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1-7 and 9-10 and allowance of the claims.

Claims 11-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Riley et al. (U.S. Publication 2002/0073258, hereinafter “Riley”) in view of Larsen et al. (U.S. 6,154,819, hereinafter “Larsen”). Applicant amended claim 11 to include the subject matter of claim 14. Applicant also amended claim 15 to be independent and to include the subject matter of claim 11 (before amendment). Claim 14 was amended to depend on claim 15.

Applicant respectfully submits that claims 11-15 are patentable because the combination of Riley and Larsen fails to teach all the elements of independent claims 11 and 15. For example, the Office Action asserts on page 8, with regard to previously pending claim 14 which is now incorporated into independent claim 11, that Larsen teaches “the control register is accessible by a first level of software and the series of linked list registers are accessible by a second level of software, wherein the first level of software is lower than the second level of software.” The Office Action cites Larsen at col. 7, lines 46-54 and col. 8, lines 53-59 as providing such a teaching. However, these portions of Larsen do not relate to specific levels of software. Thus, Applicant respectfully submits that amended independent claim 11 is patentable. Claims 12-13 are patentable for at least the same reasons as claim 11, from which they depend.

Claim 15 is believed patentable for failure of the references to teach or suggest, among other things, a control register as recited. Claim 14 was amended to be dependent on claim 15 is also believed patentable for at least the reasons set forth for claim 15.

Applicant therefore request consideration and allowance of amended independent claim 11 and claims 12-13.

Claims 22-24 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen in view of Datta et al. (U.S. 6,594,756, hereinafter “Datta”) and Larsen. Applicant respectfully traverses this rejection.

The Office Action rejected claims 22-24 and 26 under 35 U.S.C. § 103(a) based on the combination of Rasmussen, Datta, and Larsen. In combining these references the Office Action at page 11 asserts:

“At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the system of Rasmussen et al with a writable register and the control register of Larsen et al to enable the resetting and protection of both first and second registers.

The motivation for doing so would have been to ensure the integrity of the register by providing a protection mechanism to protect the register setting when the register is unintentionally modified through program operation [col. 1 lines 56-59].

Larsen et al do not teach the control register is a write-once register. Datta et al teach a write-once register [see discussion of claim 17].

Therefore, it would have been obvious to combine the system of Rasmussen et al with Larsen et al and Datta et al to obtain the invention as specified in claim 22.”

The referenced portion of the claim 17 discussion provides:

“At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the system of Roth and Larsen et al with the write-once register to prevent the subsequent write.”

This combination of references is premised on a need to modify at least the capabilities register of Rasmussen to ensure the integrity of the capabilities register. However, such a need does not exist because Rasmussen states that “[t]he capabilities pointer register and the capability identifier register are read-only. . . .” Rasmussen col. 41, lines 24-26. Thus, there is no teaching or suggestion in Rasmussen or the other references that a capabilities registers should, or could, be anything other than a read-only register. Thus, Rasmussen teaches away from the present subject matter and Applicant submits that there is no motivation to modify Rasmussen by combining the references as asserted. Therefore, Applicant respectfully submits that independent claim 22 is patentable over the combination of Rasmussen in view of Datta and Larsen. Claims 23-24 and 26 depend directly from allowable claim 22 and are patentable for at least the same reasons.

Claims 27-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Horan et al. (U.S. 5,999,198)(hereinafter “Horan”) in view of Lin et al. (U.S. 6,765,026)(hereinafter “Lin”) and Larsen. Applicant has amended claim 27 to include the subject matter of claim 31 respectfully traverses this rejection. Claim 31 was cancelled as the subject matter was claimed in amended claim 27. Claim 30 was also cancelled as claim 31 depends on claim 30. Applicant believes that claims 27 to 29 are allowable.

Thus, Applicant respectfully requests withdrawal of the 35 U.S.C. § 103(a) rejection and allowance of claims 27-29.

Claims 32 and 35-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Riley et al. in view of Mitra et al. (U.S. 6,167,472)(hereinafter “Mitra”). Applicant cancelled these claims rendering this rejection moot.

Claims 37-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mitra et al. in view of Horan et al. and Hall et al. Applicant respectfully traverses the rejection. It is submitted that the combination of references fails to teach or suggest all of the claim limitations. For example, claim 37 recites in part, “a writable control register operable to render the capabilities linked list read-only by the processor.” The proposed combination of references fails to teach an ability to modify the capabilities list.

The Office Action asserts on page 16 that Hall “teach writable control register operable to render the capabilities register [col. 5 lines 28-12] read only by the processor [col. 5 line 45 to col. 6 line 6; col. 8 lines 42-53]. However, Applicant is unable to find such a teaching related to a capabilities register in the cited portions or elsewhere in Hall.

Thus, Applicant respectfully submits that independent claim 37 is allowable over the proposed combination of Mitra, Horan, and Hall.

Claims 38-41 depend, directly or indirectly, from allowable independent claim 37 and are allowable for at least the same reasons.

Therefore, Applicant respectfully requests withdrawal of the 35 U.S.C. § 103(a) rejection of claims 37-41 and allowance of the claims because the proposed combination of references fails to teach or suggest all of the claim elements.

Claims 42-44 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen et al. in view of Lin et al. and Hall et al. Claims 45-46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen et al., Line et al., and Hall et al., as applied to claim 42, and further in view of Sibigtroth (U.S. 4,580,246, hereinafter “Sibigtroth”).

Applicant respectfully traverses these rejections because the Office Action does not provide a motivation to combine Rasmussen with the other references and Rasmussen teaches away from having a modifiable capabilities.

The Office Action fails to provide a motivation to combine the references as required. Additionally, as discussed above, Rasmussen teaches away from the proposed combination. For example, Rasmussen provides that “[t]he capabilities pointer register and the capability identifier register are read-only. . . .” Rasmussen col. 41, lines 24-26. Thus, Applicant respectfully submits that Rasmussen teaches away from the proposed combination of references in teaching

“the next node pointer registers of the first and second list nodes are conditionally read-only in response to the control register” as recited in claim 42.

Thus, Applicant respectfully submits that independent claim 42 is allowable over the proposed combination of references. Claims 43-46 depend, directly or indirectly, on allowable independent claim 42 and are allowable for at least the same reasons. Therefore, Applicant respectfully requests withdrawal of the 35 U.S.C. § 103(a) rejections and allowance of claims 42-46.

Claims 47, 49 and 51 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen et al. in view of Mitra et al. and Hall et al. Claim 50 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen et al., Mitra et al., Hall et al., as applied to claim 47 above, and further in view of Sibigroth. Applicant amended claim 47 to clarify that writing a list of capabilities to nodes in a hardware linked list with the computer peripheral is during initialization of the computer peripheral, as recited. Applicant respectfully submits that the cited references do not teach such writing during initialization of the peripheral. Applicant respectfully submits that the references would not motivate one of skill in the art to do such writing since their systems have read only capability. Thus, Rasmussen teaches away from programming a device during initialization as it is already established as a read only device.

Applicant respectfully submits that independent claim 47 is allowable over the proposed combination of references. Claims 49-51 depend, directly or indirectly, on allowable independent claim 47 and are patentable for at least the same reasons. Withdrawal of the 35 U.S.C. § 103(a) rejections and allowance of claims 47 and 49-51 is earnestly requested.

Claim 52 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen et al. in view of Mitra et al. and Hall et al. Claims 54-55 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen et al., Mitra et al., Hall et al., as applied to claim 52 above, and further in view of Sibigroth. Claims 56 and 58-59 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rasmussen et al. in view of Mitra et al. and Hall et al.

Applicant respectfully traverses these rejections. The Office Action has failed to provide a motivation to combine any of the references. The Office Action must provide specific,

objective evidence of record for finding of a suggestion or motivation to combine the reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002). Absent such evidence, it appears the examiner is using personal knowledge that is not of record.

In the event that the combination was made based on the Examiner's personal knowledge, Applicant assumes the Examiner is taking Official Notice to provide the motivation to combine the references. Applicant respectfully traverses this taking of Official Notice and, pursuant to MPEP § 2144.03, Applicant respectfully requests that the Examiner cite references in support of this position.

Thus, Applicant respectfully request withdrawal of the rejections of claims 52 and 54-55 and allowance of the claims. In the alternative, Applicant requests withdrawal of the finality of the Office Action and full consideration of claims 52, 54-56, and 58-59 to afford Applicant a full opportunity to respond to the rejections.

*Allowable Subject Matter*

Claims 25, 31, 48, 53 and 57 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has amended claim 27 to recite the subject matter of claim 31. Claims 25 and 57 were not amended. Claim 48 was not amended, but claim 47 to which it depends was amended. Reconsideration and allowance of claims 25, 27, 48, 53, and 57 are respectfully requested.

*Claim 8 Not Addressed*

Claim 8 was not addressed in the Office Action. Claim 8 depends directly from patentable claim 7 and indirectly from patentable independent claim 6. Thus, Applicant respectfully submits that claim 8 is also patentable.



**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6912 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


Respectfully submitted,

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Date Jan. 31, 2006

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**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 31 day of January, 2006.

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